

United States Department of Agriculture
Forest Service

Butterfield-Sentinel Quarry Expansion Project

Record of Decision

Mountaintop Ranger District, San Bernardino National Forest, San Bernardino County, California

December 2019 (Draft)



Photo: Butterfield and Sentinel Quarries Site Photo (Omya, 2017)

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Record of Decision

Butterfield-Sentinel Quarry Expansion Project

US Forest Service

Mountaintop Ranger District, San Bernardino National Forest

San Bernardino County, California

Decision

Based on my review of the Omya, Inc. (Omya) Butterfield and Sentinel Limestone Quarries (Butterfield-Sentinel) Expansion Project joint Environmental Impact Report (EIR) and Environmental Impact Statement (EIS) and project record, I have decided to approve Alternative 2 – the Proposed Action (Project). The Project includes the mining Plan of Operations and Reclamation Plan, a project-specific amendment to the San Bernardino National Forest (SBNF) Forest Plan to reduce the Scenic Integrity Objectives for the project area, and Travel Management decisions to decommission specified roads within the project area. This approval is conditioned on the complete Project including all design features and mitigation measures as described in the EIR/EIS.

In addition to compliance with the National Environmental Protection Act (NEPA), this approval is conditioned on Omya fulfilling requirements associated with the following additional approvals and permits:

- Compliance with the California Environmental Quality Act (CEQA);
- The Mining and Land Reclamation Plan Conditional Use Permit (CUP) from the County;
- Mojave Desert Air Quality Management District (MDAQMD) Permit to Operate;
- California Department of Fish and Wildlife (CDFW) Streambed Alteration Agreement;
- US Clean Water Act Sections (CWA) 404 and 401 Permit, approved by the Regional Water Quality Control Board (RWQCB)-Lahontan Region.

This approval is also conditioned, in part, on a withdrawal from mineral location and entry as submitted by the SBNF to the Secretary of the Interior, through the Bureau of Land Management. The portion of the Project that would impact habitat for the Endangered Cushenbury Oxytheca shall not be implemented if specified design features and mitigation measures to protect and offset impacts to this species, including the mineral withdrawal, are not in place.

Background

The proposed action is the expansion of the existing Butterfield-Sentinel Limestone (calcium carbonate) Quarries. Within the United States, productive deposits of white, high purity limestone are found in only a few areas and the Butterfield-Sentinel deposits are one of these sources. The Butterfield-Sentinel quarries are located approximately 7.5 miles south of the community of Lucerne Valley and 5 miles north of Big Bear Lake within the SBNF in San Bernardino County, California (Figure 1). Mining has been active in the region since the 1950's. The existing permitted Butterfield-Sentinel limestone quarries, as well as the proposed expansions are and would continue to be entirely within portions of approximately 954 acres of unpatented placer claims controlled by Omya but located on public lands administered by SBNF.

The Project would not be visible from any developed/populated areas surrounding Big Bear Lake, including Fawnskin, the City of Big Bear Lake and Big Bear City, due to the intervening ridges located north of the lake and the relatively lower elevation of the lake itself. The Project is also not visible from the Lucerne Valley because of its location on the south side of the range crest.

Known limestone ore resources within the proposed quarry expansion areas would provide an additional 40 years life to the Butterfield Quarry and an additional 20 years life to the Sentinel Quarry. The Project would allow continued mining of these reserves for the life of these extensions and provide approximately 680,000 tons of limestone per year. The Project includes expansion of existing Butterfield-Sentinel Quarries, expansion of associated overburden placement sites, additional internal access roads and ancillary facility areas, and minor adjustments to existing disturbance boundaries. The Project does not include any new quarries, new haul roads or new overburden sites.

The proposed expansion would include 30.6 acres of disturbance at the Butterfield Quarry, and 64.3 acres of disturbance at the Sentinel Quarry area. The total area of disturbance associated with the Project would be 94.9 acres. Quarry development and expansion would be phased and reclamation would occur concurrently.

The existing operational hours currently in place at the quarries would not change with this Project. Mining activities would vary through the year, and could occur 24 hours/day, 7 days/week depending on operational requirements. Blasting would be restricted to daylight hours.

The type of mining operations would not change from what is currently being used at the Butterfield-Sentinel Quarries. The quarries would be multi-bench open pit mines. Several working levels would be operated at any one time to supply the quota of ore needed to meet production demands. The ore would be drilled and blasted, loaded into haul trucks and hauled to the crusher currently located just southwest of the Sentinel Quarry. Crushed ore would be loaded into off-road haul trucks and transported eight miles on the vested Crystal Creek Haul Road to Omya's existing processing plant in Lucerne Valley.

Rock not suitable for the manufacture of Omya-produced limestone products would be stockpiled and/or backfilled within the quarry's footprints in a manner to reduce surface disturbance and potential impacts to wildlife habitat, sensitive vegetation, and visual resources.

Figure 2 shows the existing quarry operations and the proposed operation. Figure 3 illustrates the proposed reclamation mine plan for the Project.

Decision Rationale

I reached my decision to approve the Project after reviewing the EIR/EIS, the Project Design Features and Mitigation Measures, the Plan of Operations and Reclamation Plan, the Project record, the San Bernardino National Forest Land Management Plan, as well as other applicable rules, regulations, policies and plans. I also carefully considered public input and communications with other local, State, tribal and Federal agencies.

While Omya's purpose in proposing the Project is driven by business and broader economic interests in developing valuable mineral deposits, Forest Service policy forms the basis of my decision. It is Forest Service policy to encourage, facilitate and administer the orderly exploration, development and production of mineral resources and energy resources on National Forest System Lands to help meet the present and future needs of the Nation. This minerals management policy direction exists in the context of laws, regulations and policies that guide and define Forest Service management of public lands for multiple uses, biodiversity and sustainability, for current and future generations.

Future New Information and Changed Circumstances: It is my expectation that, over the long life of this Project, if new information or changed circumstances arise that result in new or unforeseen Project effects to the environment, or significantly increased severity of effects, the SBNF will correct or supplement documentation as needed pursuant to NEPA regulations and Forest Service Policy.

With regard to the Carbonate Habitat Mineral Withdrawal, it is my intent that the SBNF will request and support the Bureau of Land Management in periodic renewals as needed to keep the withdrawal in effect indefinitely.

My decision to approve this Project is consistent with the following laws, regulations, and policies:

- The Mining Laws of the US, including The General Mining Law of 1872, The 1897 Organic Administration Act, The Multiple-Use Mining Act of 1955, The Multiple-Use Sustained-Yield Act of 1960, and The 1970 Mining and Minerals Policy Act.
- Forest Service mining regulations at 36 CFR 228 Subpart A, which provides direction on the administration of locatable mineral operations on National Forest System lands. Under 36 CFR 228.5, the Forest Service must decide whether to approve a Plan of Operations or to require changes or additions that are necessary for the Plan of Operations to meet the requirements of the regulations for environmental protection in 36 CFR 228.8. These include conducting all operations so as to, where feasible, minimize adverse environmental impacts on National Forest surface resources including:
 - Compliance with Federal and State air quality standards including the requirements of the Clean Air Act, as amended (42 United States Code [USC] 1857 et seq.).
 - Compliance with applicable Federal and State water quality standards, including regulations issued pursuant to the Federal Water Pollution Control Act, as amended (33 USC 1151 et seq.).
 - Compliance with applicable Federal and State standards for the disposal and treatment of solid wastes.
 - To the extent practicable, harmonizing operations with scenic values through such measures as the design and location of operating facilities, including roads and other means of access, vegetative screening of operations, and construction of structures and improvements which blend with the landscape.

- Taking all practicable measures to maintain and protect fisheries and wildlife habitat that may be affected by the operations.
 - Constructing and maintaining all roads so as to assure adequate drainage and to minimize or, where practicable, eliminate damage to soil, water, and other resource values.
 - Reclamation of the surface disturbed in operations upon exhaustion of the mineral deposit or at the earliest practicable time during operations, or within 1 year of the conclusion of operations, unless a longer time is allowed by the authorized officer.
- SBNF Forest Plan (2006):
 - Emphasize processing and administration of exploration and development proposals and operations while providing adequate protection of surface resources, wildlife habitat, scenery, and recreation settings. (ME 1 – Minerals Management).
 - Permits, leases, and Plans of Operation will require that adverse environmental effects are minimized, or mitigated, and that mined lands are reclaimed in a timely manner to regain surface production and use. Reasonable access for approved mineral operations will be allowed. The emphasis will be consistent with the requirements of the Carbonate Habitat Management Strategy to sustain mineral production by providing refuge for resource protection. (ME 1- Minerals Management and Lands 4 – Mineral Withdrawals).
 - The SBNF LMP’s Desired Condition for the Desert Rim Place is “maintained as a modified to natural appearing landscape that functions as a sanctuary for a large number of federally-listed native plants and a highly valued area for limestone production”. Carbonate Habitat Management Strategy (CHMS);
 - North Slope Raptor Conservation Strategy (2019); and
 - North Slope San Bernardino Mountains Bighorn Sheep Conservation Strategy (2019).

There are numerous other Federal, State, and local law, regulations, executive orders, guidelines, policies and plans that are part of the Project design criteria. The following list identifies some, but not all, of the additional regulations that I considered during the decision making process:

- National Environmental Policy Act (NEPA)
- California Environmental Quality Act (CEQA)
- California Surface Mining and Reclamation Act;
- County of San Bernardino General Plan (2012);
- Endangered Species Act (ESA)
- Clean Water Act (CWA)
- Federal Water Pollution Control Act
- Clean Air Act
- Resource, Recovery and Control Act (RCRA)
- National Historic Preservation Act
- American Indian Religious Freedom Act
- Native American Graves and Repatriation Act
- Archeological Resource Protection Act
- Executive Order 11593 (cultural resources)
- Executive Order 13186 (Migratory Bird Treaty Act)

- Executive Order 13175 (Consultation and Coordination with Indian Tribal Governments)
- Mojave Desert Air Quality Management District Rules and Regulations
- Federal Conformity
- Federal Land Manager Air Quality Related Values
- Greenhouse Gas Regulations
- California State Water Resources Control Board Rules and Regulations
- Regional Water Quality Control Board Rules and Regulations
- Porter-Cologne Water Quality Control Act

I reviewed the evaluation of the potentially significant environmental impacts and the proposed mitigation measures (Draft EIR/EIS Section 3.0 and Appendix A of this Record of Decision (ROD)) along with the Project design features already incorporated into the Project (Draft EIR/EIS Section 2.3.17 and Sections 3.1 – 3.9). In addition to the identified potential environmental impacts and mitigation measures, the Federal, State and local regulations, conservation strategies and policies, as well as the goals, purpose and need for the proposed action described above were considered and taken into account when making my decision. I determined that these measures addressed all practical means to avoid, minimize, or offset environmental harm from the Project.

The EIR/EIS documents the environmental analysis and conclusions which form the basis of my decision. Based on the EIR/EIS, I find that the Project:

- Meets the stated purpose and need;
- Was evaluated based on the best available scientific information to consider significant issues and adverse environmental effects; and
- Has incorporated all practicable means to avoid or minimize environmental harm from implementation of the Project.
- Is the environmentally preferred alternative (per 40 CFR 1505.2 (b)). While the other two action alternatives may have reduced effects in the short term, they would both result in inefficient sequencing of project implementation leading to delayed or less effective mine reclamation. Also, the environmental issues that drove the development of these alternatives (reduced footprint and reduced effects to surface resources under Alternative 3, and reduced air pollutant emission rates under Alternative 4) were found in the effects analysis to be adequately mitigated and not significant.

Public Involvement

The public review process for the EIR/EIS included the following opportunities:

- A Notice of Intent (NOI) was prepared for the Project by the Forest Service and published in the Federal Register on February 28, 2013 (83 FR 32665). Additionally, the County prepared the Notice of Preparation (NOP) and Initial Study for the Project and circulated to all responsible agencies and interested parties, including the California State Clearinghouse, beginning on February 22, 2013. A joint NOP/NOI was mailed to the agencies, organizations and individuals on both the Forest Service and County mailing lists.
- In order to ensure that the public agencies, organizations and individuals had access to the Initial Study and technical documents supporting the Initial Study, the scoping period was extended two times, once to April 16, 2013 and then again to June 6, 2013.

- The joint NOP/NOI was also published in the local newspapers and copies of the scoping notices, the Initial Study and the Amended POO and Reclamation Plan were posted on the agency websites.
- Two public scoping meetings were held to provide the public and government agencies the opportunity to receive information on the CEQA/NEPA process and the Project as well as provide verbal and written comments. Approximately six people attended the meeting in Big Bear and seven people attended the meeting in Lucerne Valley. Thirteen letters/emails were received, eight from governmental agencies and five from organizations or individuals.
- The Forest Service published the Draft EIR/EIS Notice of Availability (NOA) in the Federal Register and the County distributed the Draft EIR/EIS Notice of Completion (NOC) to the California State Clearinghouse. The NOA was filed in the Federal Register on July 13, 2018. The NOC was filed with the State of California Clearinghouse on July 13, 2018. A Legal Notice/NOA was also posted in the San Bernardino Sun Newspaper on July 13, 2018. A joint NOA/NOC was posted on both the County's and Forest Service's Internet websites, along with links to download the Draft EIR/EIS.
- In addition, notices were sent to the agencies, organizations and individuals on the County and Forest Service mailing lists and posted in the San Bernardino County Sun.
- The Draft EIR/EIS was circulated for review and comment between July 13, 2018 and August 28, 2018.
- The Draft EIR/EIS was made available for public review at both the San Bernardino and Fawnskin SBNF field offices, as well as the County Planning Division offices in San Bernardino and Hesperia. The Draft EIR/EIS was also available on both the Forest Service's and County's internet websites.
- Copies of the Draft EIR/EIS were provided, upon request, to responsible, trustee, and other federal, state, and local agencies expected or known to have expertise or interest in the resources that the Project may affect, as well as to organizations and individuals.

The following issues were identified from scoping comments and were used to determine the scope of the analysis. A full description of issues significant to the proposed action appears in the Executive Summary (pages ES-1 through ES-48) of the Draft EIR/EIS:

- **Aesthetics** – Depending on the given location of a viewer, portions of the Project site may be visible to the public. Considering that the Project is located in the SBNF, there is concern that impacts on viewsheds from within the SBNF could be significant.
- **Air Quality and Greenhouse Gas Emissions** – Project operations, including excavation activities, plant operations, and vehicle trips, have the potential to impact air quality. Potential impacts associated with Greenhouse Gas (GHG) emissions are also a concern.
- **Biological Resources** – There are listed, endangered and special status-species as well as unique habitats such as the carbonate soil habitat in the Project area. The mining operations potentially could impact sensitive species and/or their habitat.
- **Geology and Soils** – The quarry slopes could present a hazard due to slope stability and seismic activity.
- **Hydrology and Water Quality** – There is the potential that groundwater and surface water quality could be affected by the mining operations. There are drainages adjacent to the quarries that connect to Jurisdictional Waters (JD) of the United States and the State.

Alternatives Considered

The Butterfield-Sentinel Quarry Expansion Project joint Environmental Impact Report and Environmental Impact Statement (EIR/EIS) identified and evaluated four (4) alternatives as discussed below. I have decided to implement Alternative 2 – The Proposed Action.

In addition to the Proposed Action, (Alternative 2), I considered the following three alternatives discussed below. A more detailed comparison of these alternatives can be found in the EIR/EIS Sections 2.2 through 2.8. I also considered alternatives that were identified but eliminated from further evaluation (Draft EIR/EIS Section 2.7).

Alternative 1 – No Project

In the case of the mining of locatable minerals, there are certain rights under the mining laws of the US that make this no action alternative different than typical Forest Service projects. The Forest Service does not have the authority to deny access to mine valuable and properly discovered and claimed minerals on public domain land. As described under 36CFR228A, the Forest Service does have the authority to require measures and provisions under the mining plan as needed for environmental protection, and the mining and reclamation plan is subject to Forest Service approval. Approval by the FS responsible official is subject to the provisions of NEPA, ESA, and all other laws, regulations and policy pertaining to Forest Service decision-making. In this case, a decision to select this no-project alternative would be a decision not to approve the Proposed Action or other action alternatives as described. It is not a denial of Omya's access to the claimed mineral resources.

The proposed action and the two action alternatives include measures sufficient to avoid, minimize or offset significant impacts to the environment while also developing locatable mineral resources. Therefore selection of the no action alternative is not warranted and would not meet the purpose and need.

Alternative 3: Partial Implementation – Butterfield Quarry Expansion Only

Under Alternative 3 only the Butterfield Quarry would be expanded. The Sentinel Quarry would continue to be mined under its current POO and Reclamation Plan and the B5 overburden pad would not be expanded from its approved area. In this alternative the Butterfield Quarry would have a shorter duration of 20 years instead of 40 years as proposed in Alternatives 2 and 4. This alternative would also have a smaller footprint than Alternative 2 by approximately 50 acres. Total accessible limestone reserves would be reduced by 50% from 27.2 million tons to 13.5 million tons.

I did not select this alternative for the following reasons:

- It would preclude backfilling Sentinel Quarry and associated reclamation because proven reserves would be buried by overburden;
- Adequate overburden capacity would not be available because this alternative does not approve expansion of the B5 Overburden Pad, backfilling of Sentinel Quarry, and associated reclamation;
- It would require additional approval for future Sentinel Quarry expansion, which would be inefficient and not warranted by environmental effects.

Alternative 4: Mixed Production with the White Knob Quarry to Meet Omya's Processing Plant Capacity

This alternative would assume that instead of the Butterfield and Sentinel Quarries providing 100% (680,000 tons per year) of the ore to Omya's processing plant, an alternative production mix between the quarries would be evaluated and a limit would be placed on the production levels allowed for the Project. A key objective of this alternative is to minimize potential impacts associated with air emissions. However, the effects analysis found that both the Project and this alternative would require the same air quality mitigations as the Project in order to stay under all the air quality significance thresholds.

I did not select this alternative for the following reasons:

- It would significantly limit the availability of a recognized valuable mineral resource without significantly reducing potential environmental impacts associated with air quality;
- It would unnecessarily limit Omya's operational flexibility, and potentially prevent Omya from meeting the need for high quality limestone. This is because the quality of limestone varies between the ore deposits and often Omya is required to mix resources, or exclude resources from various deposits/quarries in order to obtain a final product that meets the necessary purity levels;

Findings Required by Other Laws and Regulations

Project Specific Amendment: I believe that my decision is consistent with the SBNF Forest Plan, with the following project specific amendment. The current Forest Plan Scenic Integrity Objectives (SIO) map, provided as Figure 3.1.2 – Existing SIO in Section 3.1 of the Draft EIR/EIS, identifies the regional setting in which the Project is located as a SIO ranking of "High". However, as discussed in Section 3.1 of the Draft EIR/EIS, the existing and historic landscape character of the region is inconsistent with a SIO ranking of High. Given past and present mining, the existing Project Area currently has baseline conditions that are more consistent with Low scenic integrity levels, and a project specific amendment will be made by the Forest Service to address this inconsistency. The purpose of the amendment is to bring the SIO designation in the Forest Plan, specific to the Project Area, into consistency with existing and proposed uses. The amendment will be subject to pre-decisional administrative review under 36 CFR § 218 as part of the Project, not the review process for forest plans under 36 CFR § 219. When a plan amendment is made together with, and only applies to, a project or activity decision, the analysis prepared for the project or activity may serve as the documentation for the preliminary identification of the need to change the plan (§219.13(b)(1)). The Project, along with this project specific amendment, is consistent with the plan component requirements under 36 CFR 219, including sustainability, diversity, multiple use, and timber. This documentation is found within Section 3.1 – Aesthetics of the Draft EIR/EIS.

National Forest Transportation System Roads 3N87, 3N88, 3N88A, and 3N88B occur within the Project analysis area. All of these roads are currently designated as Administrative Use Only and closed to public motorized access. The Project would result in changes in the status of these roads. Therefore, my decision to approve the Project would include Travel Management Decisions with regard to these roads.

The Project would result in burial of the west half of 3N87 which has already been buried in part by the Sentinel Quarry Expansion project of 2002. About 0.6 miles of this route beginning at Forest Road 3N16 would be decommissioned and removed from the National Forest Transportation System, leaving a gated 0.6 mile long administrative road originating at Forest Road 3N54 and terminating at the Sentinel Quarry operating area. This remaining administrative road provides access to private land owned by Specialty

Minerals Inc., to the east side of the Sentinel Quarry operating area, and to Southern California Edison power lines.

Forest Road 3N88 is the Crystal Creek Haul Road, including the haul road to Cloudy and Claudia Quarries. This road is to be reclaimed and decommissioned in segments upon completion of mining. Reclamation of the Cloudy and Claudia segments would continue as currently specified in the Reclamation Plan. The segment connecting the Butterfield and Sentinel quarries with the processing plant in Lucerne Valley would remain in use through the life of the Project. The Project would extend this period of use, and the final reclamation date, by 20 years. All segments of 3N88 would ultimately be decommissioned and removed from the National Forest Transportation System upon final reclamation.

Forest Roads 3N88A and 3N88B are road spurs that would be displaced by the Project. These spurs would be decommissioned and removed from the National Forest Transportation System.

Administrative Review Opportunities

Pursuant to NEPA, the Forest Service filed the Final EIR/EIS with the Environmental Protection Agency (EPA), who published a Notice of Availability (NOA) for the Final EIR/EIS in the Federal Register. Pursuant to 36 CFR 218, a Legal Notice of a 45-day Opportunity to Object was published in the Newspaper of Record (San Bernardino Sun). After the Final EIR/EIS, Legal Notice, and NOA were published, there was a minimum 30-day period prior to issuing this ROD informing the public of the final decision and identifying all alternatives considered in reaching the decision.

Implementation Date

This Project is expected to begin implementation immediately following the signing of this Record of Decision.

Contact

For additional information concerning this decision, please contact:

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Jody Noiron
Forest Supervisor

Date

References

- Forest, S. B. (2016). Biological Assessment/Evaluation, Non-Native Species Risk Assessment for OMYA's Butterfield & Sentinel Quarries Expansion Project. Mountain Ranger District. San Bernardino National Forest.
- Joseph, S. (1984). Mineral Classification of the Pluess-Staufer, Inc. Limestone Deposit. CA Department of Conservation, State Mining and Geology Board. Sacramento: State of California.
- Lilburn Corporation. (2013). Initial Study - Amended Plan of Operations for the Butterfield-Sentinel Quarries. County of San Bernardino, Land Use Services. Lucerne Valley: Omya California.
- Lilburn Corporation. (2013). Scenery Report for Butterfield-Sentinel Quarries. San Bernardino National Forest. San Bernardino: USDA Forest Service.
- Mojave Basin Area Watermaster. (2010-2011). 18th Annual Report of the Mojave Basin Area Watermaster. Riverside County Superior Court. Barstow / Adelanto: Mojave Basin Area Watermaster.
- Omya California (Division of Omya, Inc.). (2009). Amended Plan of Operations & Reclamation Plan - Butterfield 3 Quarry Expansion. San Bernardino National Forest, San Bernardino County. Lucerne Valley: Omya, Inc.
- Pluess-Staufer. (1994). Reclamation Plan for Existing Limestone Operation. San Bernardino County, Land Use Services Department. Lucerne Valley: Pluess-Staufer.
- Pluess-Staufer, Inc. (1992). Butterfield 3 Quarry - Slope Stability Study. Pluess-Staufer (California), Inc. Lucerne Valley: Howard J. Brown.
- Pluess-Staufer, Inc. (1992). Slope Stability Study - Sentinel Quarry and Old Overburden Placement Site. Pluess-Staufer (California), Inc. Lucerne Valley: Howard Brown, Geologist.
- United States Forest Service. (1988). Sentinel Quarry Expansion Environmental Assessment. USDA Forest Service. San Bernardino: San Bernardino National Forest.
- United States Forest Service. (2010, May 27). Letter - Holcomb Creek & Crab Creek 2010 Integrated Report. Response Letter - 2010 Integrated Report 303(d). (F. Supervisor, Ed., & J. W. Evans, Compiler) San Bernardino, CA, US: USDA.
- USDA, Forest Service. (2006). Land Management Plan - San Bernardino National Forest. United States Department of Agriculture, Forest Service. San Bernardino, CA: USDA, Forest Service. Retrieved 2017, from <https://www.fs.usda.gov/main/sbnf/landmanagement/planning>